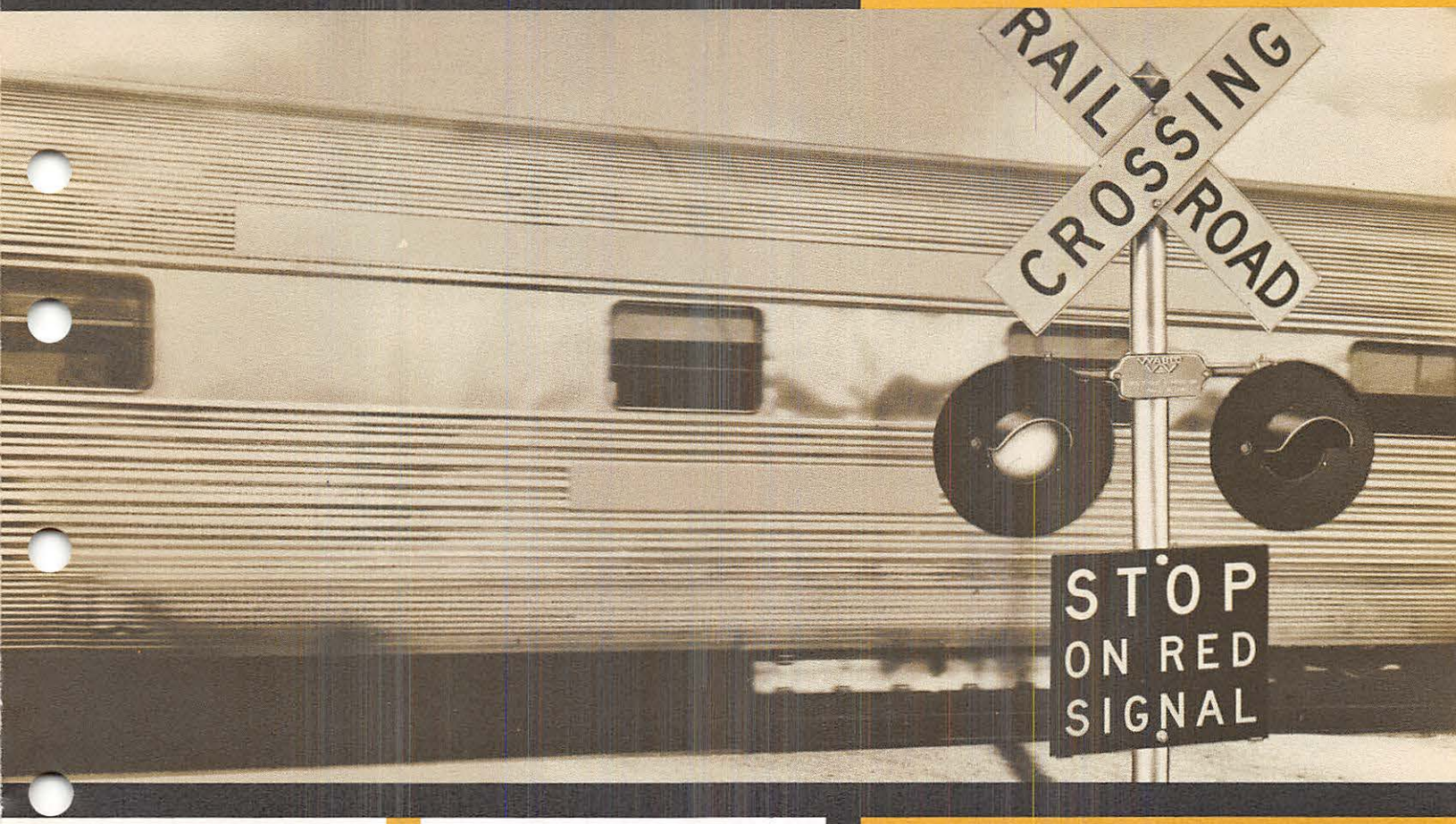
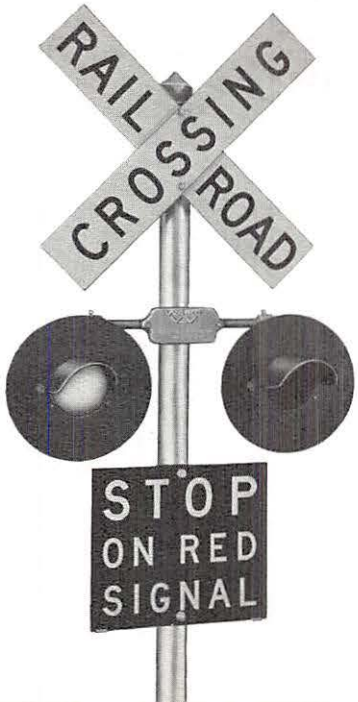
UNION DEVELOPMENT NO. 302

WABCO

UNION SWITCH & SIGNAL DIVISION

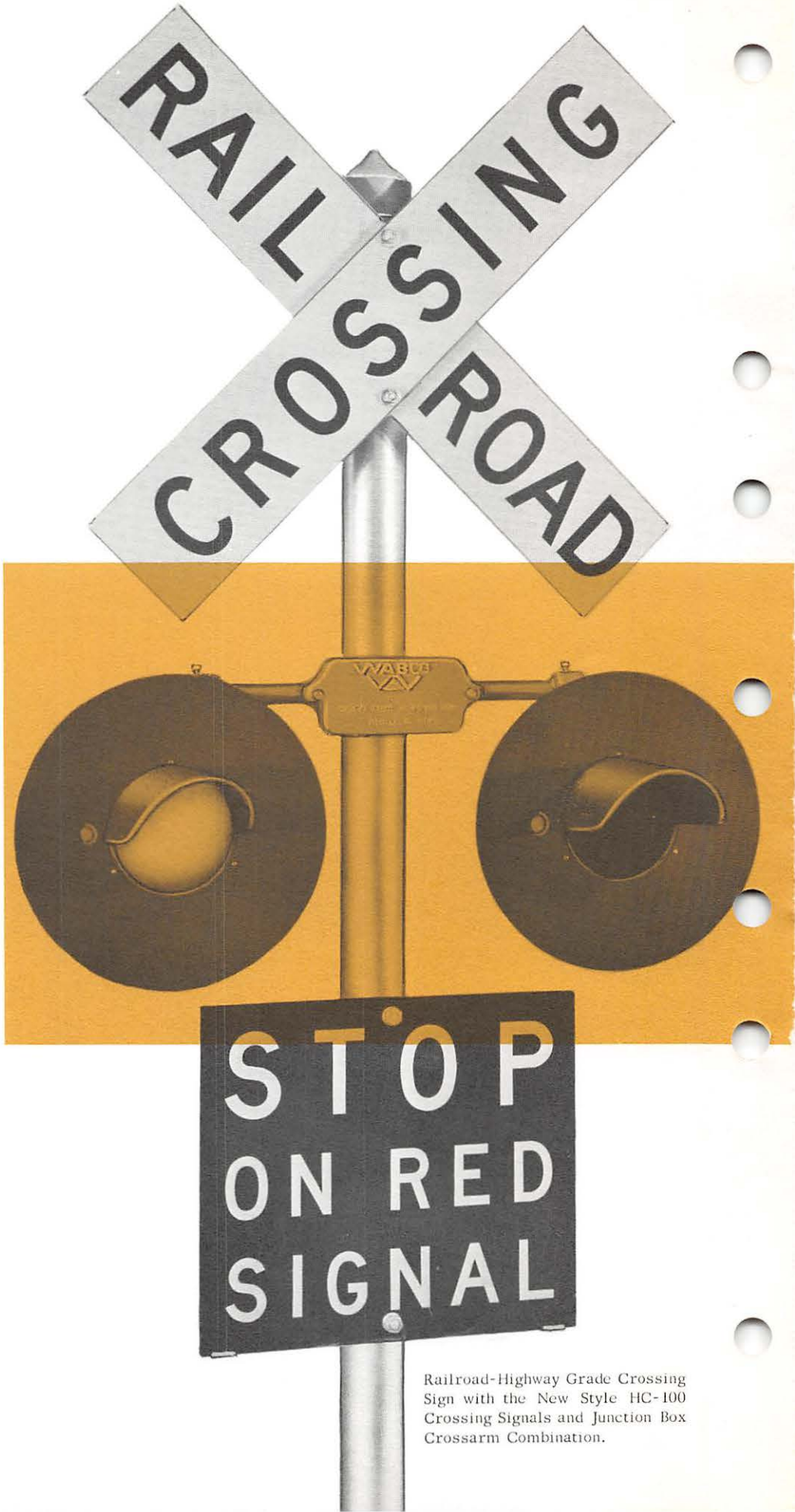
PITTSBURGH 18, PENNSYLVANIA/Westinghouse Air Brake Company





STYLE HC-100 HIGHWAY CROSSING SIGNAL AND COMBINED JUNCTION BOX CROSSARM

The Style HC-100 Highway Crossing Signal and Combined Junction Box Crossarm is a new development of Union Switch & Signal Division of Westinghouse Air Brake Company, and has been designed to supersede the Style HC-81 Lamp Unit, and the existing standard cast iron Combined Junction Box Crossarm. Modern design and manufacturing methods have provided this new development in the field of highway crossing protection with new concepts of Signal Unit and Crossarm construction, handling, adjustment, and maintenance, along with a new signal lamp unit and roundel giving an indication of greater intensity than any previously developed roundel. This new Style HC-100 Highway Crossing Signal and Combined Junction Box Crossarm meets A.A.R. Specifications.



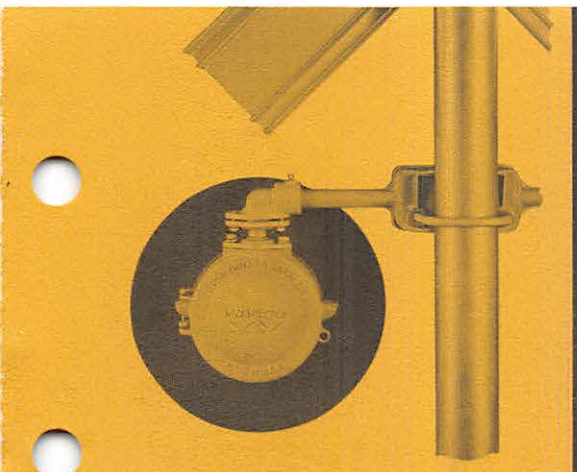
Railroad-Highway Grade Crossing Sign with the New Style HC-100 Crossing Signals and Junction Box Crossarm Combination.

A "universal design" has been incorporated into the new Signal Unit to make it applicable not only to existing Union crossarms, but also, with adapters in some cases, to crossarms of most other manufacture. This feature enables the stocking of a single style Lamp Unit for most crossarms in use and will provide considerable convenience and simplicity both in field maintenance and in ordering replacement items.

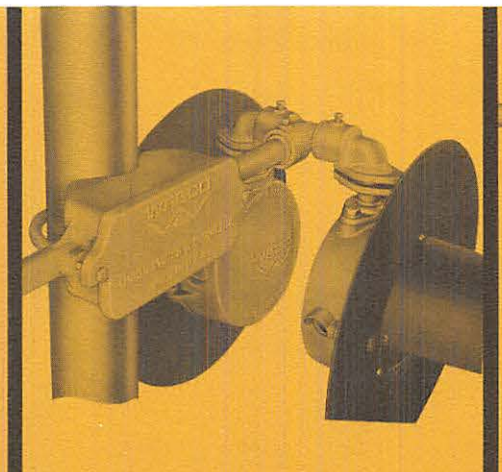
The size of the new HC-100 Lamp Unit has been reduced to a minimum compatible with ease in assembly and maintenance, and by using new aluminum die castings the weight of the HC-100 Unit and Junction Box Crossarm combination has been substantially reduced to a minimum consistent with required strength.

The smaller size and lighter weight of the new unit combined with a built-in means for signal unit alignment readily permits installation by one man. One man can make all adjustments of the alignment with the new sighting arrangement and the simplified provisions for horizontal and vertical adjustments. Provision for greater horizontal adjustment on individual lamp units has been provided to make it easier to adequately signal the "hard to cover" approaches to crossings.

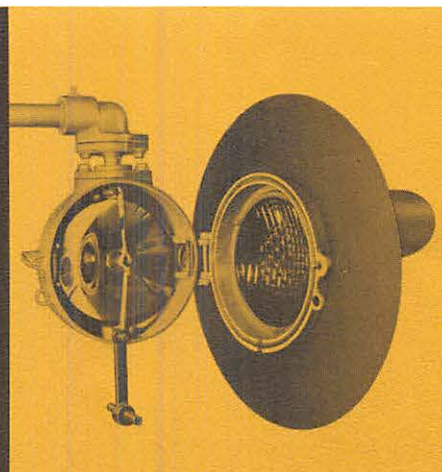
All aluminum parts of the HC-100 are provided with an iridite finish which readily accepts paint or which can be used as delivered without painting. This provides a reduction in, or elimination of, painting at regular intervals. Rusting is also eliminated. The hood and background are also made of aluminum, iridited and painted with non-reflective black paint to comply with A.A.R. Specifications.



Horizontal and Vertical Adjustments on the New HC-100 Signal Unit are Simplified and Concentrated at the Rear of the Unit.



On a Back-to-Back Installation, Lamp Units are applied to a "Tee" fitting connected to the ends of the Crossarm.



Internal Arrangement of the New HC-100 Signal Unit. Shown is the new arrangement, using the Style D Sighting Tube.

The following table of comparative weights between the die cast aluminum and the previous cast iron equipment shows that a weight reduction has been achieved that averages about seventy-five percent.

		HC-100 Die Cast Aluminum (lbs.)	HC-81 Cast Iron (lbs.)
Crossarm and Signal	2-light Crossarm with Units	28-1/2	110
	4-light Crossarm with Units	51	203
Crossarms only	2-light (one-direction)	11-1/4	41-1/2
	4-light (back to back)	16-1/4	67
Light Units	Unit only	6-1/4	27-3/4
	Units with Hood and Background	8-3/4	34

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February 1963 A0.63-1.5M-770.1 Printed in U. S. A.